Remarks

In the specification, a new first paragraph, following the title, has been added to reflect priority data as requested by the Examiner.

A new abstract, by itself on a separate sheet, not containing additional information has been provided, also as requested by the Examiner.

Submitted concurrently with this response is a new IDS and PTO 1449 (Modified) with copies of the missing documents from a previous IDS and PTO 1449 (modified) submission.

Claims 2-4, 8-10, 12, 13 and 16 are pending in this application. Claims 1, 5, 6, 7 and 11 have been cancelled in this response. Claims 14 and 15 were previously cancelled.

Applicants cannot provide a date certain for reference CC. The following information can be provided. The named entity on the reference is "DowElanco." That entity existed between October 31, 1989 when it was formed as a joint venture between Dow Chemical Company and Eli Lilly and Company and June 30, 1997, when Dow Chemical Company acquired Eli Lilly and Company's interest in the joint venture and renamed the entity "Dow AgroSciences." The reference, therefore, existed no earlier than October 31, 1989 and no later than June 30, 1997. Applicants believe that reference CC was published between those dates. The earliest claimed priority date for the presently claimed invention is August 12, 1999, when U.S. Provisional Application No. 60/148,527 was filed. There is approximately two (2) years between the earliest claimed priority date and the date when the entity's name was changed to Dow AgroSciences.

New Claim 16 is supported, at least, by prior Claims 1, 6 and 7 and Example 5 (page 18) of the specification. Amendments to the dependency of Claims 2, 8, 9, 10 and 12 were made to reflect the cancellation of claims and presentation of new Claim 16.

In each of Claims 2, 3, 4 and 9, the particular parasiticide "spinosad" has been substituted for the term "spinosyn." This change brings the claims into closer conformity with the examples provided in the specification.

In Claim 9, amendments have been made to bring that claim into ambit with limitations included in claims from which it depends.

Applicants respectfully contend the amendments are fully supported by the specification in the present application and do not add new matter.

All pending claims were rejected under 35 U.S.C. 103(a) over Boeck, et al. (AH) in view of Burton, et al. (CBB). Applicants respectfully traverse the rejection and request reconsideration. Applicants respectfully contend that a combination of Boeck, et al. and Burton, et al. does not establish a prima facie case of obviousness against the presently claimed invention. Assuming, however, for present discussion purposes only, a prima facie

case of obviousness exists, Example 1 of the present specification clearly demonstrates the unobviousness and therefore patentability of the presently claimed invention.

Boeck, generally discloses compounds A83543A, B, C, D, E, F, G, H and J and pseudoaglycones A, D, E, F, H and J. As recognized on page 1, lines 17-22, of the present specification, the spinosyns are disclosed in Boeck as having ectoparasiticidal activity. More particularly, they demonstrated in vitro activity against mosquito larvae, black blowfly larvae, and adult stable flies which are members of the order Diptera. Further, certain compounds demonstrated transient systemic activity against larval blowfly and adult stable fly in guinea pigs and sheep; Column 27, Tables IX, X, XX and XXI; Column 28, Tables XXII and XXIII. In the systemic activity tests, the compounds tested were dissolved in aqueous polyvinyl pyrrolidone or in polyethylene glycol 200 and administered orally or by intraperitoneal injection.

Agricultural compositions are disclosed in Boeck at Column 25 and are said to be prepared according to procedures conventional in the agricultural chemical art, Column 25, lines 7-11. A general description of agricultural compositions is provided at Column 25, line 12 through Column 26, line 40. Boeck discloses at Column 31, line 62 through Column 32, line 51, ectoparasiticidal compositions suitable for administration to animals. Such compositions require a "physiologically acceptable carrier" as stated in Column 31, line 65.

Also in Boeck are Examples 12A, a "typical" formulation of the insecticidal compositions and Example 13C an "exemplary" composition.

Applicants respectfully disagree with the Examiner and contend Example 12A in Boeck does not contain a dispersant. The Examiner asserts that "silica" is a dispersant. Applicants contend, as disclosed on page 8, lines 1-2, of the present specification, silica may be generally employed as a mineral thickener. Both Tergitol TMN-6 and Makon 10 in Example 12A are nonionic surfactants.

As stated on page 2, lines 3-10 of the present specification, the inclusion of a dispersant and the ratio of active ingredient to dispersant is a unique feature of the formulations of the presently claimed invention.

Applicants agree with the Examiner that Boeck does not specifically disclose spinosyn (now spinosad) having a particle size of from about 1 to about 15 microns and does not specifically exemplify each of the limitations of Claim 16, and dependent claims, as to particle size, relative amount and the nature of particular ingredients. Applicants acknowledge Example 13C in Boeck discloses A83543A in combination with "naphthalenesulfonate salt" which is described in the present specification as a dispersant. Applicants contend, however, the dispersant as shown in Example 13C of Boeck is outside the claimed spinosad:dispersant weight ratio of 3:1 to 1:5. The naphthalenesulfonate salt of Boeck, Example 13C, is disclosed as present at a 6:1 spinosyn A: naphthalenesulfonate salt ratio. This ratio is double the highest claimed spinosad:dispersant weight ratio range of the

present invention.

Thompson, et al. (Reference CCC) discloses spinosad as a mixture of spinosyn A and spinosyn D (Figure 1) and that Tracer will be the trade name for the spinosad based agricultural insect control product. The commercial availability of spinosad for agricultural product field applications is recognized in the present specification at page 4, lines 4-5.

Applicants acknowledge Burton discloses a particle size for spinosad of between 2 and 6 microns. Burton, however, merely states "Formulation inerts have been chosen to balance viscosity, settling characteristics of the concentrate, and dispersion of the diluted product," at page 696, last full sentence in left hand column. No further details are provided as to what inerts were included, the relative amounts, or, in any meaningful way, the nature of those inerts. Burton, therefor, does not teach or exemplify each of the limitations of Claim 16, and dependent claims, as to the nature of particular ingredients, or relative amounts of such ingredients.

Applicants respectfully contend that when considered together, the ordinary skilled artisan would conclude that with a particle size of between 2 and 6 microns (Burton), a dispersant would not be necessary (Boeck, Example 12A) or, if necessary, must be present at least at a 6:1 ratio of spinosyn A: naphthalenesulfonate salt (Boeck, Example 13C).

As previously noted, the spinosad:dispersant ratio claimed in the present application has an upper limit of 3:1. That upper limit is double the ratio of spinosyn A: naphthalenesulfonate salt in Boeck, Example 13C.

Applicants direct the Examiner's attention to the data contained in the specification at Example 1, in support of the presently claimed invention. Two concentrated aqueous suspension formulation groups were prepared with one group containing a dispersant and one group without a dispersant. As noted at page 13, lines 17-18, the spinosad was milled to a particle size of from 3 to 7 microns. The two groups of aqueous suspensions contained 25 g/L of spinosad which is 2.5% by weight. For the dispersant containing group, the dispersant is present at about 2% by weight active dispersant on a solids basis. It should be appreciated, these amounts of spinosad and dispersant are well below Boeck, Example 13C, and are very close to the particle size disclosure of Burton. These concentrated aqueous suspensions were diluted in sufficient amounts of tap or deionized water at various pH levels to afford a theoretical concentration of 100 ppm of spinosad. The samples were evaluated for actual spinosad concentration immediately upon dilution and after 24 hours.

The data in Table 1, page 14, shows, as described in the specification, that including a dispersant within the claimed range significantly improved spinosad concentrations, both initially and at 24 hours post-dilution in aqueous formulations at the stated pH levels and in both hard and soft water. The dispersant is also said to have facilitated resuspension properties of the formulation after quiescent settling of the solids

from the suspension.

Applicants respectfully contend this data supports the unobvious advantages of the presently claimed formulations over Boeck in view of Burton, assuming a prima facie case of obviousness is believed to exist.

Burton discloses spinosad particle size of 2 to 6 microns, but does not teach or suggest particular ingredients or relative amounts as set forth in the claims. In particular, Burton does not teach or suggest the presence of a dispersant at a spinosad to dispersant ratio of 3:1 to 1:5.

Boeck does not disclose particle size requirements or the combination of ingredients at the relative amounts claimed in the present application. Applicants contend, when taken together, despite Burton disclosing a particle size of 2 to 6 microns and Boeck disclosing, to the extent a dispersant is present, said dispersant should be present in at least a spinosyn A to dispersant ratio of 6:1 (Example 13C), the data in Example 1 supports the unobviousness and patentability of the presently claimed invention.

It is Applicants position that a combination of Boeck and of Burton does not establish a prima facie case of obviousness. Assuming, however, for present discussion purposes only, a prima facie case of obviousness exists, Example 1 clearly demonstrates the unobviousness of the formulations as presently claimed.

In view of the amendments to the claims and the remarks made herein, Applicants respectfully request favorable reconsideration of this application.

Respectfully submitted,

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